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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,845	11/02/2000	Matsumoto Toshiyuki	18940/36899	2544

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WASHINGTON, DC 20006

EXAMINER

NGUYEN, TUNG X

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,845

Examiner

Tung X Nguyen

Applicant(s)

TOSHIYUKI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 23-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 17-21 is/are rejected.
- 7) ☐ Claim(s) 11-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s): _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0101 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. The response Election/Restrictions filed on 10/29/03 has been entered and made of record as paper number 10/29/03. Claims 23-25 have been withdrawn, and claims 1-22 are pending.
2. Claims 23-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention II, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 10/29/03.
3. Applicant is requested to cancel the claims 23-25.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

Claim 1 recites the limitation of "the same potential" in line 8.

Claim 20 recites the limitation of "the biasing voltage" in line 5, and "the same potential" in line 7. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Specification

5. The disclosure is objected to because of the following informalities:

"the gate 40" in page 11, line 13 should read --- the gate 50 ---

"shield strips 87" in page 15, line 8, 13, 17 should read --- shield strips 87B---

"shield plate 89" in page 15, line 9-10, 13, 17 should read ---shield plate 89B---

"the pad 83" in page 15, line 10, 13, 17 should read ---the pad 83B---

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear that the step of applying the same potential to the gate and to the channel area and *the other of the source or drain it the biasing voltage applied to the one of the source or drain, and the same potential to one of the source or drain and to the other of the source or drain and the channel area if the biasing voltage is applied to the gate.* What does the applicant mean? ✓

To apply the art, the examiner assumes that the steps of applying the biasing voltage to the source, then applying the same potential to the gate and to the channel area, and the drain.

Note: A "voltage" is a difference between two "potentials."

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

ΣD

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-10, 17-19, 20-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Long et al. (u.s.p 6,069,485).

As to claim 1-2, 6-9, Long discloses in Fig. 1, a device and method for measuring capacitance of micro-structures of an integrated circuit, comprising: field effect transistor (FET 10) having a first, second, third terminals, and a channel area, wherein the first terminal considered a gate (14), the second terminal considered a source (15), and the third terminal considered a drain (16), a channel area considered a depletion regions (39) and wherein the gate, source and drain separated by an insulator (60); Long et al. teach a bias voltage source (22) for applying the biasing voltage to the second terminal (15), and potential source for applying the same potential to the first and second terminals (14, 16); Further, Long et al. teach the controller (31) for setting the source, drain and gate voltage to substrate voltage and measuring the gate capacitance recording by the controller (col. 4, lines 5-35).

As to claims 3-5, Long et al. further disclose a fourth terminal considered the substrate of FET (17) separated to the first terminal by an insulator (60), wherein the voltage source (22) for applying the biasing voltage to the second and fourth terminals (15, 17); and determine the sum of the capacitance between the first and the second and fourth terminals by the controller (col. 4, lines 5-35).

As to claim 10, it appears that all field effect transistor having a gate, source and a drain created a PN junction with a body of the field effect transistor.

Allowable Subject Matter

10. Claim 22 is allowed.

11. Claims 11-16, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claims 11-16, and 22 the prior art does not teach or suggest the steps of measuring the electrical characteristic between the word or bit line and the neighbor word or bit line to determine the capacitance between the word or bit line and its neighbor word or bit line; In combination with the other claimed features.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tamegaya (u.s.p 6,295,630), Cho et al. (u.s.p 6,437,360), Cooper et al. (u.s.p 5,365,477). They all relate to method and apparatus for measuring the capacitance in the integrated circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X Nguyen whose telephone number is (703) 305-3337. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703)-308-1233. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TN

12/05/03


EVAN PERT
PRIMARY EXAMINER